

## **Chapter V- Environmental Resources and Air Quality**

### **Background**

Transportation project impact analysis on communities and the natural environment is an element of project development, environmental documentation, and design. As the primary agency responsible for environmental compliance regarding transportation projects, DelDOT follows FHWA guidance regarding Planning and Environment Linkages (PEL). According to FHWA, the “Planning and Environment Linkages (PEL) represents a collaborative and integrated approach to transportation decision-making that 1) considers environmental, community, and economic goals early in the transportation planning process, and 2) uses the information, analysis, and products developed during planning to inform the environmental review process.” In fact, FHWA has an [Environmental Review Toolkit](#) website and FTA has an [Environmental Analysis and Review](#) site to assist State’s and MPO’s with their environmental compliance efforts regarding historic preservation, natural resource avoidance and mitigation, and conformity with the clean air act. As the State of Delaware’s Transportation Agency, DelDOT is committed to ensure environmental impacts are considered when planning and constructing transportation projects in Kent County, Delaware. For example, as one of 10 goals, the 2019 DelDOT Long Range Transportation Plan (Innovation in Motion), describes Environmental Stewardship as, “protect and enhance the environment through sustainable best practices, integration of environmental considerations into planning and design, and responsible energy consumption” (DelDOT, 2019. P. ES-3). Moreover, the D/KC MPO leverages environmental considerations outlined in Long Range and Comprehensive Planning efforts by our State, Regional, and Local MPO partners when prioritizing transportation projects.

Local Comprehensive and State Agencies Long Range Plans provide detailed summaries regarding Kent County’s environmental resources. As previously mentioned, the [2018 Kent County Levy Court Comprehensive Plan](#) and the [2019 City of Dover Comprehensive Plan](#) both provide detailed summaries on environmental and natural resources. These plans provide conservation, natural, and environmental resource summaries in chapter 5 of both comprehensive plans. The summaries include topography, soil types, water resources, hydrology, woodland habitat, coastal zone, flooding, climate change, agricultural lands, and air quality. Therefore, individuals are directed to these two comprehensive plans for detailed information pertaining to environmental and natural resources in Kent County

Regarding transportation projects, there are several Delaware State agencies in addition to DelDOT, who are responsible to ensure environmental compliance and natural resource protection occur in Kent County. The Delaware [Department of Natural Resources and Environmental Control](#) (DNREC) reviews [air quality](#) for transportation conformity actions, [climate change](#) concerns for proposed transportation networks in low lying and frequently flooded areas, [water and wetland](#) impacts from road construction, and [recreational park lands](#) connecting bike, pedestrian, and multi-modal trails. The Delaware [Department of Agricultural](#) reviews proposed transportation construction projects which impact current and foreseeable [farmland preservation](#) actions and [forest preservation](#) actions. Within the Delaware Department of State is the [Division of Historical and Cultural Affairs](#) (used to be called the State Historic Preservation Office (SHPO)) reviews transportation actions regarding potential impact to archeological sites and historic properties.

This chapter summarizes the steps taken by the D/KC MPO when considering environmental impact for the Innovation 2045 MTP transportation projects as well as the federal and state regulatory agencies consult efforts relative to this MTP. Recognizing environmental compliance challenges at the

earliest stage of transportation planning, can help avoid or mitigate undesirable environmental impacts to transportation projects. This approach helps reduce the risks that are inherent in an uncertain planning process, and helps prevent the expenditure of unnecessary time and resources.

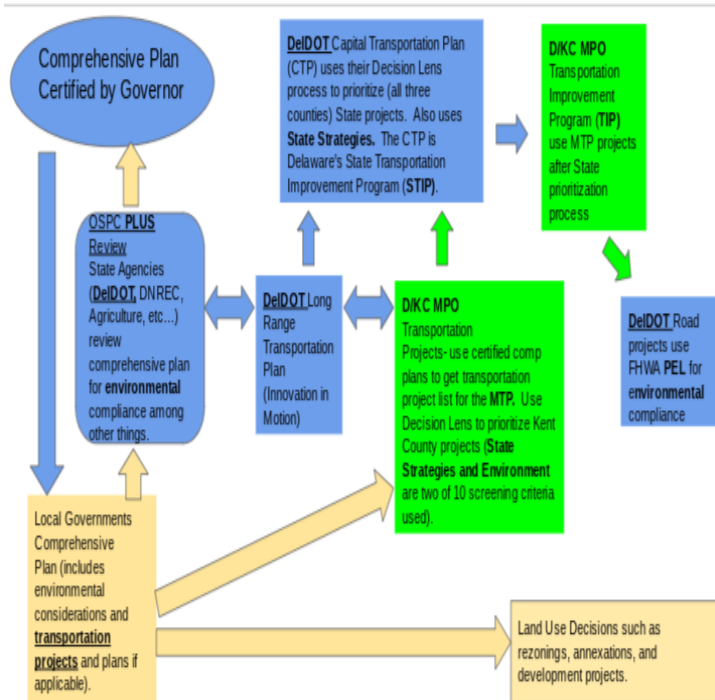
### ***Environmental Analysis***

As briefly described in Chapters I and IV, the D/KC MPO leverages Long Range and Comprehensive Planning efforts by our Federal, State, Regional, and Local MPO partners. These long range and comprehensive planning documents address environmental impacts resulting from future growth scenarios. For example, land use decisions are decided at the local county and municipal level whereas transportation infrastructure construction, maintenance, and service is mostly a state responsibility. Local land use decisions rely on future growth scenarios described in their comprehensive planning documents which are also certified by the State through the Office of State Planning Coordination (OSPC). In addition to identifying future growth areas, the local comprehensive plans also identify potential environmental impacts which may occur from future growth, the annexation of land, and proposed long range development, economic, or transportation projects. In order for the comprehensive plans to be certified, they are reviewed by State Agencies through the OSPC's [Preliminary Land Use Service](#) (PLUS) to ensure they meet the Delaware Strategies for State Policies and Spending, meet [comprehensive plan requirements](#) (environmental, natural resource, and transportation plan elements, etc...), and are not contrary to State regulations such as environmental and natural resource regulations. Once the comprehensive plans meet state planning requirements, they can be certified by the Governor.

The OSPC publishes the Delaware Strategies for State Policies and Spending which among other things, is a land use policy guide used to direct state spending like transportation projects, in one of five investment priority areas. DeIDOT's

transportation investments reflect these same priorities: Growth related infrastructure directed towards investment level areas 1 and 2; Open Space and Agricultural preservation directed towards investment level areas 3 and 4; and Environmental conservation efforts predominantly directed in the 5th area called, "out of play" (DeIDOT, 2019, P. II-12). It is also important to note that all Delaware State Agencies who review environmental and natural resource compliance actions regarding transportation actions, support the Delaware Strategies for State Policies and Spending as a guide to avoid environmental impact. These State Agencies, local governments, and the general public are afforded opportunities to comment on the Delaware Strategies for State Policies and Spending when this document and Investment level area map are updated every five years.

The diagram below provides a snapshot how local comprehensive plans and specifically, comprehensive plan transportation projects have environmental review. Lower left hand corner shows local governments comprehensive plans being developed and submitted to OSPC. State agencies such as DNREC and DeIDOT review the comprehensive plans to ensure compliance with environmental and transportation requirements. Although comprehensive plans typically provide a cursory acknowledgement of environmental analysis, DNREC provides additional guidance regarding identified comprehensive plan projects which may require more detailed environmental review. For example, local comprehensive plans should address environmental impacts which may result from future growth scenarios. Many times these future growth scenarios include transportation projects which DeIDOT evaluates against their Long Range Transportation Plan (LRTP). Once the comprehensive plan meets OSPC requirements, it is forwarded to the Governor for certification and then sent back to the local government. The local comprehensive plans are then used to make Land Use decisions.

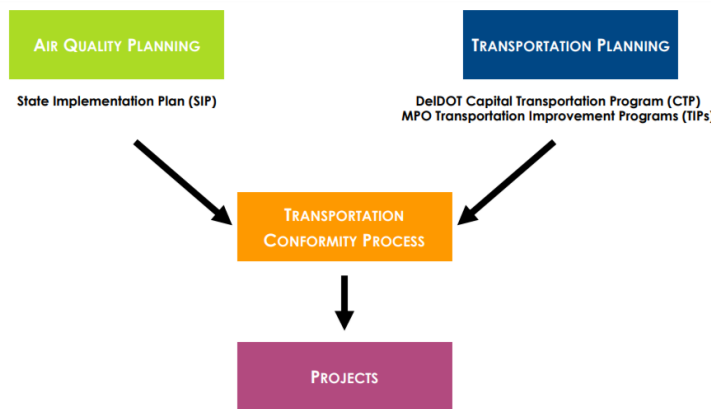


Projects from all three counties in Delaware are prioritized and this list becomes the State Transportation Improvement Program (STIP). Depending on D/KC MPO projects prioritization ranking in the STIP, projects with high ranking will be considered as part of the D/KC MPO Transportation Improvement Program (TIP) and mostly will be constructed after NEPA review and compliance through FHWA PEL (planning and environmental linkage) considerations.

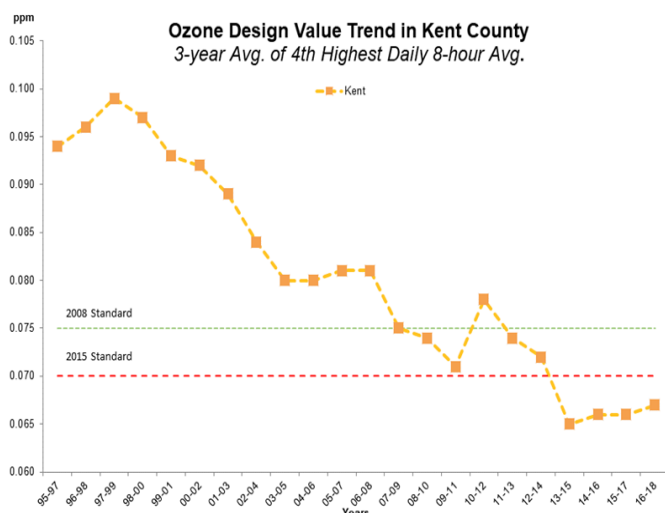
### Air Quality

Transportation conformity was first introduced and included in the 1977 CAA to ensure that federal funding approval for transportation activities are consistent with air quality goals. These goals are set in the air quality State Implementation Plan (SIP) in each state. Transportation conformity requirements were made substantially more rigorous in the CAA Amendments of 1990, and the implementation details of the CAA requirements were first issued in the November 24, 1993 Federal Register. The regulations establish the criteria and procedures for transportation agencies to demonstrate that air pollutant emissions from MTP, TIP, and projects funded or approved by the Federal Highway Administration (FHWA) or the Federal Transit Administration (FTA) are consistent with the State's air quality goals in the SIP. The most recent amendment of transportation conformity implementation requirements was issued in April 2012. The SIP is a federally-approved and enforceable plan by which an area identifies how it will attain and/or maintain the health-related primary and welfare-related secondary NAAQS. Under the CAA, transportation and air quality modeling procedures must be coordinated to ensure that the TIP and the LRTP are consistent with the SIP applicable to Kent County.

The D/KC MPO reviews comprehensive plans for any identified transportation projects when updating their Metropolitan Transportation Plan (MTP). The MTP among other things, also incorporates initiatives from DelDOT's LRTP and utilizes Decision Lens (a software prioritization and resource optimization system) to make funding decisions in a project prioritization and resource allocation manner based on **ten screening criteria**. Each of the ten criteria are weighted differently and have a percentage value which when added together, equals 100%. The state strategies are ranked second out of the ten criteria with a value of 13.75% and environmental considerations ranked fourth with a value of 9.36%. Note: See chapter VI for additional information on Decision Lens. Therefore, in addition to results from the other eight criteria, D/KC MPO MTP projects can receive a high priority ranking if they (1) are located within State Strategy growth areas (levels 1 or 2) and not environmental preservation areas (levels, 3, 4, or out of play); and (2) is considered an "exempt" [regionally significant project](#) and requires no [National Environmental Policy Act](#) mitigation. After the D/KC MPO Council adopts the MTP, the MPO projects are considered and prioritized at the State level as part of Delaware's Capital Transportation Plan CTP.



Transportation conformity requires nonattainment and maintenance areas to demonstrate that all future transportation projects will not hinder the area from reaching and maintaining its attainment goals. This process is also explained in the DelDOT 2019 Long Range Transportation Plan ([Innovation in Motion](#)) on pages I-74 and I-75. The integration of transportation and air quality planning is intended to ensure that transportation plans, programs, and projects will not: Cause or contribute to any new violation of any applicable NAAQS Increase the frequency or severity of any existing violation of any applicable NAAQS Delay timely attainment of any applicable NAAQS, any required interim emissions reductions, or other NAAQS milestones.



Source: DNREC Division of Air Quality

The Clean Air Act (CAA) requires the Environmental Protection Agency (EPA) to set national ambient air quality standard (NAAQS) designations for pollutants considered harmful to

public health and the environment. A nonattainment area is any area that does not meet the primary or secondary NAAQS. Once a nonattainment area meets the standards and additional re-designation requirements in the CAA (Section 107(d)(3)(E)), EPA will designate the area as a maintenance area. The D/KC MPO is required by law to demonstrate that the MTP conforms to the transportation emission budgets set forth in the Statewide Implementation Plan (SIP) for Delaware. If emissions generated from the projects programmed in the MTP are equal to or less than the emission budgets in the SIPs, then conformity has been demonstrated. The D/KC MPO adopted the previous Metropolitan Transportation Plan (MTP) on January 4, 2017 and was considered to have been in "conformity" with the 2008 Ozone Standard.

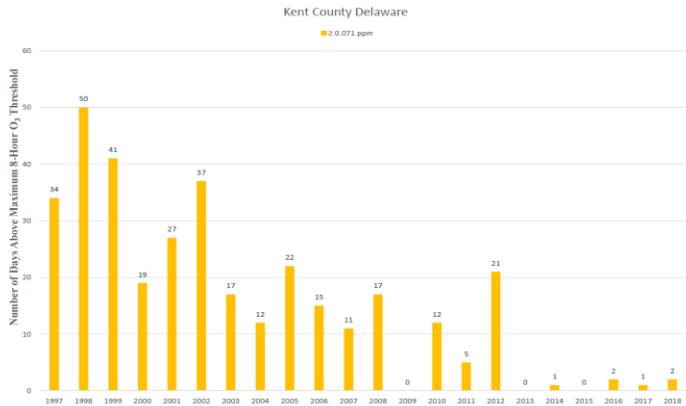
However, on February 16, 2018, the U.S. Court of Appeals decision regarding the South Coast Air Quality Management District case required areas which were previously not in attainment prior to 2008, to revert back to the 1997 ozone standard. This legal challenge to the ozone standards released by the EPA was partially upheld. Despite the fact that the D/KC MPO was considered to be in attainment for the stricter 2008 and 2015 standards, the 1997 standard which was previously revoked by EPA (relieving Kent County of performing transportation conformity for years) was partially reinstated by the 2018 Court of Appeals decision. [On April 23, 2018 U.S. Department of Transportation Interim Guidance](#) on Conformity Requirements for the 1997 Ozone NAAQS was released to MPOs. The result is that all D/KC MPO TIPs and MTPs in Kent County must once again show conformity to the 1997 8-Hour Ozone standard.

### ***Innovation 2045 MTP Conformity Determination***

According to the US Environmental Protection Agency [Delaware Nonattainment/Maintenance Status](#) website, Kent County is considered in nonattainment for the 1997 8-hour ozone standard,

as part of the Philadelphia-Wilmington-Atlantic City nonattainment area.

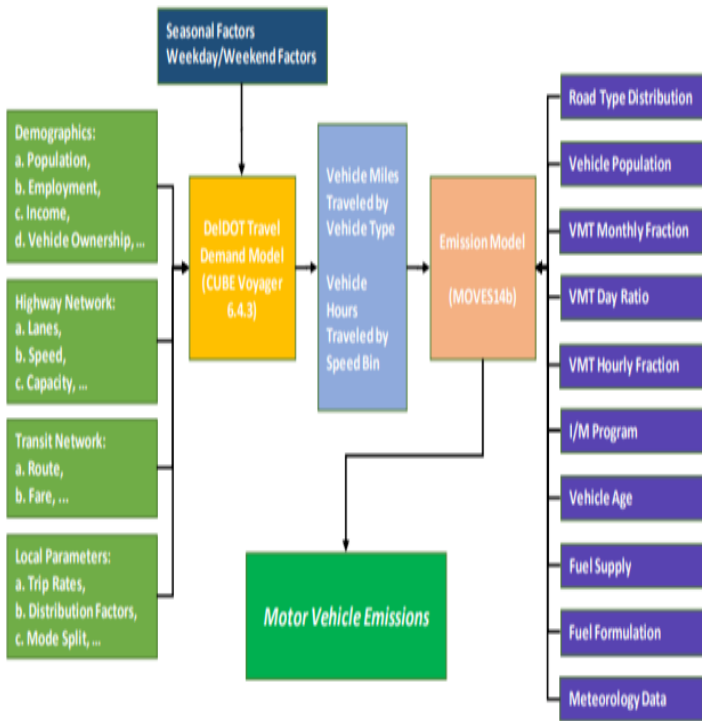
Number of days with maximum observed 8-hour average O<sub>3</sub> at or above exceedance threshold of 0.071 ppm (orange bars) in Kent County for 1997-2018. Note that number of days is based on the current (2015) National Ambient Air Quality Standard of 0.070 ppm for 8 hour ozone. An ozone exceedance is declared when the observed maximum 8-hour average greater than or equal to 0.071.



Source: DNREC Division of Air Quality

The methodology and data assumptions used for the conformity analysis are very similar to those found in the July 2019 D/KC MPO [Air Quality Conformity Analysis Report](#). Detailed emission results are presented for each analysis year, by summer weekday and by daily and annual average. Modeling input and output files have been reviewed by Delaware Department of Natural Resources and Environmental Control (DNREC).

Exhibit 3: Air Quality Analysis Modeling Process



**NOTE: The conformity determination for projects listed in chapter VI will be assessed through DelDOT consultants during the month of July 2020. Once complete, the results will be included in this chapter or as an appendix to the Innovation 2045 MTP.**